

Why Do We Have Music? #1

Why is music fun? Making music is _____ among all human activities. Music is one of the biggest industries today, and the top musicians earn enormous popularity and _____. Also, every known culture at any era across the globe has some form of music, and humans have _____ to music throughout history. For example, Pythagoras argued that we could _____ by hearing and absorbing the _____. Plato also developed a theory in his book *The Republic* that music should be used for the _____ of soul and the mind. In ancient China, Confucianism regarded music as helpful to _____ and _____. On the other hand, Mozi, a philosopher almost _____ Confucius, argued that "music offers _____ pleasing the ear," and "if expenditures on music _____ resources necessary for their lives, men of virtue _____ engage in it." In other words, he raised the question of whether music is _____ resources in. Also, the linguist and evolutionary psychologist Steven Pinker called music an _____ meaning that music is a _____ of other essential functions such as language and intelligence, or just a play that serves _____ in survival. Is music just a play, as Mozi and Pinker thought, or is it something _____ and meaningful? Why do we Homo sapiens have music?

Why is music fun? Making music is unusual among all human activities. Music is one of the biggest industries today, and the top musicians earn enormous popularity and admiration. Also, every known culture at any era across the globe has some form of music, and humans have attributed various meanings to music throughout history. For example, Pythagoras argued that we could purify our souls by hearing and absorbing the harmony of the cosmos. Plato also developed a theory in his book *The Republic* that music should be used for the cultivation of soul and the mind. In ancient China, Confucianism regarded music as helpful to enhance our morals and recover social order. On the other hand, Mozi, a philosopher almost contemporary with Confucius, argued that "music offers no benefit beyond pleasing the ear," and "if expenditures on music deprive people of resources necessary for their lives, men of virtue should not engage in it." In other words, he raised the question of whether music is worth investing resources in. Also, the linguist and evolutionary psychologist Steven Pinker called music an "auditory cheesecake," meaning that music is a byproduct of other essential functions such as language and intelligence, or just a play that serves no practical role in survival. Is music just a play, as Mozi and Pinker thought, or is it something more valuable and meaningful? Why do we Homo sapiens have music?

admiration	称賛、憧れ	expenditure	支出、出費
attribute	〜に帰する、与える	deprive	奪う
purify	清める	virtue	美德、徳
harmony	調和	auditory	聴覚の
cosmos	宇宙	byproduct	副産物
cultivation	育成、陶冶	practical	実用的な

Why Do We Have Music? #2

We talk to infants in a _____. Almost _____, we speak to children from birth up until around three years old with a _____, a wider range of pitch, longer and _____ vowels and pauses, and shorter phrases and _____. In essence, the melodic and rhythmic features of spoken language, or _____, are highly _____ so that our delivery adopts musical character. Such manners of speech are called 'motherese' and _____ or IDS. We talk this way because human infants show an interest in, and _____, the rhythms, tempos and melodies of speech _____ they are able to understand the meanings of words. In IDS, the melody is the message; the intention of the speaker, such as _____, _____, and attention-bidding, can be gained _____. Whatever the message is, exposure to musical language appears to be good for children. There is a _____ between the quantity and quality of IDS an infant receives and the rate at which it grows. More interestingly, the characteristics of IDS are _____ languages and regions. In a cross-linguistic study of IDS in French, Italian, German, Japanese, and English, prosodic patterns were _____ across these languages. Even in tonal language such as Chinese, parents often _____ of IDS over the lexical tones. Many researchers have suggested that music has an _____ over language. Our ancestors might have _____ before they began speaking the language.

We talk to infants in a distinctive way. Almost unconsciously, we speak to children from birth up until around three years old with a higher overall pitch, a wider range of pitch, longer and articulated vowels and pauses, and shorter phrases and greater repetition. In essence, the melodic and rhythmic features of spoken language, or prosody, are highly exaggerated so that our delivery adopts musical character. Such manners of speech are called 'motherese' and 'infant-directed speech,' or IDS.

We talk this way because human infants show an interest in, and sensitivity to, the rhythms, tempos and melodies of speech long before they are able to understand the meanings of words. In IDS, the melody is the message; the intention of the speaker, such as approval, prohibition, and attention-bidding, can be gained from the prosody alone. Whatever the message is, exposure to musical language appears to be good for children. There is a correlation between the quantity and quality of IDS an infant receives and the rate at which it grows. More interestingly, the characteristics of IDS are universal across languages and regions. In a cross-linguistic study of IDS in French, Italian, German, Japanese, and English, prosodic patterns were remarkably similar across these languages. Even in tonal language such as Chinese, parents often prioritize prosody of IDS over the lexical tones. Many researchers have suggested that music has an evolutionary priority over language. Our ancestors might have sung first before they began speaking the language.

distinctive	特徴的な	syntax	統語論、文法構造
articulate	はっきり発音された	cross-linguistic	言語横断的な
prosody	韻律、抑揚	tonal	声調のある
exaggerate	誇張する、強調する	lexical	語彙の
sensitivity	感受性、敏感さ	violate	破る、違反する
prohibition	禁止	evocative	感情を呼び起こす

Why Do We Have Music? #3

Our ancestors may have been singing and making music _____ the emergence of spoken language. Many anthropologists and _____ propose such theories, including Robin Dunbar, a British _____. He argues that language evolved as a means to _____, and it might have been _____ at the beginning. Chimpanzees are _____ of humans, and they live in a group of around 50 members. To form and maintain _____ within a group, they spend a great deal of time _____ each other. Grooming is not only for reasons of _____, but it stimulates the production of the _____, a neurotransmitter that functions to reduce pain, ease stress, and promote a _____. Among monkeys and apes, the time devoted to grooming during the day _____ the size of the group. On the other hand, Homo sapiens live in groups of around 150. This raises an important question: if grooming can _____ of only around 50, how do humans _____ in groups of 150? The answer is the use of _____. Voice allows 'grooming' with _____ at a time. Here, vocal sounds were not used as a means of conveying information, but as a way to _____. Communal musical experiences lead to _____ within the brains of the participants. Vocal interaction may have emerged from the social need to maintain cohesion in groups _____ through grooming.

Our ancestors may have been singing and making music prior to the emergence of spoken language. Many anthropologists and archeologists propose such theories, including Robin Dunbar, a British evolutionary biologist. He argues that language evolved as a means to promote social cohesion, and it might have been quite musical at the beginning.

Chimpanzees are the closest relatives of humans, and they live in a group of around 50 members. To form and maintain intimate relationships within a group, they spend a great deal of time grooming each other. Grooming is not only for reasons of hygiene, but it stimulates the production of the endorphins, a neurotransmitter that functions to reduce pain, ease stress, and promote a feeling of pleasure. Among monkeys and apes, the time devoted to grooming during the day correlates roughly with the size of the group.

On the other hand, Homo sapiens live in groups of around 150. This raises an important question: if grooming can sustain groups of only around 50, how do humans maintain cohesion in groups of 150? The answer is the use of vocal interaction. Voice allows 'grooming' with more than two individuals at a time. Here, vocal sounds were not used as a means of conveying information, but as a way to establish emotional connections.

Communal musical experiences lead to endorphin surges within the brains of the participants. Vocal interaction may have emerged from the social need to maintain cohesion in groups too large to be sustained through grooming.

anthropologist	人類学者	correlate with	〜と相関する
archeologist	考古学者	budget	割り当て、予算
cohesion	結束、結束力	sustain	維持する
intimate	親密な	convey	伝える
hygiene	衛生	communal	共同の、集団の
endorphin	エンドルフィン	prototype	原型、試作品

Why Do We Have Music? #4

Homo sapiens are highly social animals. Each individual is _____, but they have established survival advantages by _____ in large groups. As stated, music has fostered social cohesion and encouraged individuals toward _____. Moreover, music provided _____ for the survival of tribes.

Rhythm is found _____ in every form of music across every era and region. Some studies suggest that music may have evolved in part because the ability to _____ facilitates coordination in group activities. Whether it was hunting a prey or _____, rhythmic _____ enabled groups to act in union.

Also, rhythm serves as a threat to enemies. In a psychology experiment, participants rated the _____ of groups of soldiers based on the sounds of those groups approaching. When participants heard _____, they imagined the soldiers to be _____. For example, dolphins swim and surface in unison to _____. When people move in unison, their sense of fear _____, while feelings of cohesion are enhanced. From a physiological perspective, moving in sync with others triggers the release of endorphins, which brings about the state of _____, allowing individuals to _____ and act for the group benefit.

In many traditional societies across Africa, Asia, and Oceania, members of a tribe gather to _____. Such rituals, especially before _____ with external enemies, _____ and help reduce fear. People also engage in musical activities in ordinary times, probably because music serves as a _____ for coordinated actions during hunting and fighting. Today, we feel the urge to move to musical rhythms or feel _____ in live performances precisely because these functions once helped our ancestors survive.

Homo sapiens are highly social animals. Each individual is embarrassingly weak, but they have established survival advantages by effective cooperation in large groups. As stated, music has fostered social cohesion and encouraged individuals toward altruistic behavior. Moreover, music provided practical advantages for the survival of tribes. Rhythm is found universally in every form of music across every era and region. Some studies suggest that music may have evolved in part because the ability to keep time facilitates coordination in group activities. Whether it was hunting a prey or repelling hostile tribes, rhythmic synchronization enabled groups to act in union. Also, rhythm serves as a threat to enemies. In a psychology experiment, participants rated the formidability of groups of soldiers based on the sounds of those groups approaching. When participants heard synchronized steps, they imagined the soldiers to be physically stronger and bigger. For example, dolphins swim and surface in unison to intimidate outsiders. When people move in unison, their sense of fear diminishes, while feelings of cohesion are enhanced. From a physiological perspective, moving in sync with others triggers the release of endorphins, which brings about the state of collective intoxication, allowing individuals to overcome fear and act for the group benefit. In many traditional societies across Africa, Asia, and Oceania, members of a tribe gather to sing and dance together. Such rituals, especially before engaging in combat with external enemies, promote a sense of unity and help reduce fear. People also engage in musical activities in ordinary times, probably because music serves as a form of practice for coordinated actions during hunting and fighting. Today, we feel the urge to move to musical rhythms or feel exhilaration in live performances precisely because these functions once helped our ancestors survive.

embarrassingly	驚くほど、情けないほど	formidability	手ごわさ、威圧感
altruistic	利他的な	intimidate	威圧する
facilitate	促進する	diminish	減少する
coordination	協調、連携	physiological	生理的な
synchronization	同期、一致	intoxication	高揚状態、酩酊
repel	撃退する	exhilaration	高揚感、興奮

Why Do We Have Music? #5

Charles Darwin, the founder of evolutionary theory, explained the existence of music in terms of _____. He meant that musical ability helped _____. Musical _____ can be associated with other abilities and _____. The ability to _____ the music shared within the community and reproduce it with appropriate rhythm and pitch demonstrates a high level of _____. Singing and dancing is physically and mentally tough, which _____ their good health and cognitive ability. Also, acquiring musical skills requires _____. This may signal that music experts are capable of securing food and shelter efficiently. The same has also been indicated in studies on _____. The songs of some bird species _____ various vocal patterns arranged in certain rules of sequence. Young male birds learn from the songs of their parents' generation and eventually make their own. Female birds, on the other hand, are more _____ when they hear _____ songs. For male birds, singing a complex song _____ and risks. Allocating cognitive resources to the learning and control of song reduces attention to the external environment, thereby _____ predation. Also, learning and retaining songs consume _____ to build and maintain neural systems, as well as time for practice. Conversely, the ability to sing a variety of complicated songs proves the _____ that allows survival despite such risks and costs. Similarly, females of Homo sapiens tend to _____ when they choose their mate. A study shows that women at the _____ of their menstrual cycle preferred a creative but poor artist rather than a not creative but rich man as a _____. In the 21st century, what top stars usually do in front of an audience is singing or dancing, and they attract the admiration of _____ of the opposite sex. Of course, music has not evolved solely for _____, but sexual selection certainly contributed to its evolution.

Charles Darwin, the founder of evolutionary theory, explained the existence of music in terms of sexual selection. He meant that musical ability helped attract a mate. Musical proficiency can be associated with other abilities and adaptive capacities. The ability to internalize the music shared within the community and reproduce it with appropriate rhythm and pitch demonstrates a high level of learning capacity. Singing and dancing is physically and mentally tough, which advertises their good health and cognitive ability. Also, acquiring musical skills requires immense time and effort. This may signal that music experts are capable of securing food and shelter efficiently. The same has also been indicated in studies on singing birds. The songs of some bird species consist of various vocal patterns arranged in certain rules of sequence. Young male birds learn from the songs of their parents' generation and eventually make their own. Female birds, on the other hand, are more receptive to mating when they hear intricate and varied songs. For male birds, singing a complex song entails various costs and risks. Allocating cognitive resources to the learning and control of song reduces attention to the external environment, thereby increasing the risk of predation. Also, learning and retaining songs consume metabolic resources to build and maintain neural systems, as well as time for practice. Conversely, the ability to sing a variety of complicated songs proves the fitness that allows survival despite such risks and costs. Similarly, females of Homo sapiens tend to select creativity when they choose their mate. A study shows that women at the peak of fertility of their menstrual cycle preferred a creative but poor artist rather than a not creative but rich man as a short-term mate. In the 21st century, what top stars usually do in front of an audience is singing or dancing, and they attract the admiration of countless members of the opposite sex. Of course, music has not evolved solely for sexual enticement, but sexual selection certainly contributed to its evolution.

sexual selection	性選択	intricate	複雑な、入り組んだ
proficiency	熟達、熟練	predation	捕食
internalize	身につける、内面化する	metabolic	代謝の
adaptive	適応力のある	fertility	生殖能力、妊娠しやすさ
advertise	示す、誇示する	enticement	誘惑、誘引
receptive	受け入れやすい	admiration	称賛、憧れ